

What is claimed is:

1. A data sort method of rearranging records according to a specified sort key item in an ascending/descending order, comprising:

an automaton generating step of generating an automaton for receiving a character string of a sort key item of each record, and for associating a record identifier with a final transition state; and

- an order value tuple generating step of generating an order value tuple which is a set of a record identifier of the record and an order value which is obtained by arranging the records in an ascending/descending order by scanning the automaton.

2. A data sort apparatus which rearranges records according to a specified sort key item in an ascending/descending order, comprising:

an automaton generating unit generating an automaton for receiving a character string of a sort key item of each record, and for associating a record identifier with a final transition state; and

an order value tuple generating unit generating an order value tuple which is a set of a record identifier of the record and an order value which is obtained by

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arranging the records in an ascending/descending order by scanning the automaton.

3. A data sort program for directing a computer to perform a data sorting process of rearranging records according to a specified sort key item in an ascending/descending order, comprising:

an automaton generating step of generating an automaton for receiving a character string of a sort key item of each record, and for associating a record identifier with a final transition state; and

an order value tuple generating step of generating an order value tuple which is a set of a record identifier of the record and an order value which is obtained by arranging the records in an ascending/descending order by scanning the automaton.

4. A computer-readable storage medium storing the program according to claim 3.

5. The data sort method according to claim 1, wherein there are a plurality of sort key items, and said order value tuple is a set of a plurality of order values and a record identifier.

string belonging to the record identifier, and receiving the character string as a plural order value key character string for all tuples on the record order sort table; and

5 a general order value tuple generating step of scanning the automaton, and generating a general order value tuple which is a set of the record identifier and a newly ordered general order value as a general order for the plurality of sort keys.

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10. The data sort method according to claim 1, further comprising:

 a record identifier setting step of recording a tuple for association between a starting address of a
15 record and a record identifier for identification of the record for each record read from input data.

11. The data sort method according to claim 1, further comprising:

20 a key data preprocessing step of converting input sort key item data into a key character string appropriate for said automaton generating step according to a key condition relating to a sort method for each specified sort key item.

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12. The data sort method according to claim 5, further comprising:

5 a sort table generating step of generating a sort table on which the order value tuples are arranged in a predetermined order.

13. A data sort apparatus which rearranges records according to a specified sort key item in an ascending/descending order, comprising:

10 automaton generating means for generating an automaton for receiving a character string of a sort key item of each record, and for associating a record identifier with a final transition state; and

15 order value tuple generating means for generating an order value tuple which is a set of a record identifier of the record and an order value which is obtained by arranging the records in an ascending/descending order by scanning the automaton.

204020-9699800T 10086696-030402